

## **REMARKS**

Claims 1-5 and 7 are presented for reconsideration.

In the Office Action, claims 1, 2 and 4-6 were rejected under 35 USC 103 as being unpatentable over Heerman et al (U.S. Patent No. 5,929,516) in view of Dumoulin et al (U.S. Patent No. 6,130,478). Applicant notes with appreciation that claim 3 was indicated as containing allowable subject matter and would be allowable if rewritten in independent form including all of the limitations of base claim 1 and the intervening claim 2.

Since the Office Action indicated that none of the Certified Copies of the priority document had been received, applicant's attorneys have contacted the Examiner and were advised on or about November 4, 2003 that a Xerox copy of the Certified Copy of the priority document was in the file and, thus, had been provided by the International Bureau for the National Stage Application. It is requested that in the next communication from the Patent Office, the information concerning the priority documents be corrected to reflect that the copies of the Certified Copy of the priority document had been received in this National Stage Application.

By this amendment, the Substitute Specification has been amended on pages 6 and 7 to highlight that the cylindrical stud, such as E of Figs. 1, 2 and 3, extends beyond an end surface of the rest of the stud, the diameter of this cylindrical projection E is of such a size that an annular step or setback ST is formed as transition to the end surface of the rest of the polymer stud. As illustrated in the drawings, these projections, which can be concentric with the stud or a plurality of projections, such as shown in Fig. 5, or an annular projection shown in Fig. 6 or a compound projection having two diameters as shown by the projection of Fig. 4, all extend above the stud's surface for the purpose of reducing the size of the area presented to the connecting pad AP for the purpose of preventing the reflow solder L from being drawn up alongside the stud toward the connector run LZ.


By this amendment, claim 1 has been amended to further highlight the claim over the prior art. Claim 3 has been amended to incorporate the limitations of claims 1 and 2 and, therefore, it is submitted that claim 3 is allowable over the art of record. Claim 6 has been cancelled and claim 7 has been added.

It is respectfully submitted that neither Heerman et al nor Dumoulin et al disclose this feature of the claimed stud. While each of these references talks about a step, the step ST of Heerman et al is in the trough, so that the trough has a level M1 and a second level formed by the step ST. It is submitted that none of the studs PS or IA3 show a projection extending from the end, such as applicant's projection E. There is no teaching in this reference of forming a projection on the stud, so that there is a step between the end of the projection and the end surface of the remaining portion of the stud, as recited in claim 1. In a similar manner, the step ST in Dumoulin et al is in the trough M, so the trough has at least two depths, one being a shallow depth formed by the step ST and the other being the depth on which the microwave circuit is applied. It is submitted, again, that none of the studs PS, which extend from the substrate S, have projections on the outer end, which projections form a step on each of the studs.

It is respectfully submitted that claim 1, as amended, is clearly unobvious to a person of ordinary skill in the art, since none of the references teach or suggest a substrate having at least two metallized polymer studs, each of the polymer studs having an end with at least one projection extending beyond the end surface of the rest of the stud to form a step at the end of the stud. The remaining references of record, such as Boone and Lin, do not teach or suggest a stud having an end with a projection extending from that end to form a step adjacent the end surface of the stud. For these reasons, it is respectfully submitted that independent claim 1 is clearly patentable over the prior art of record and allowable. It is also submitted that claims 2, 4, 5 and 7 are clearly patentable, since there is no teaching or suggestion in the references of record of a cylindrical projection which is arranged concentric with respect to the polymer stud, as recited in claim 2; that the polymer stud is provided with two projections forming two steps, such as recited in claim 4; that the polymer studs are provided with a number of projections arranged at a distance from one another on the step, as recited in claim 5; or that the projection is an annular projection, as recited in claim 7. For these reasons, it is respectfully submitted that claims 1, 2, 4, 5 and 7 are also allowable along with claim 3.

In view of the amendments and explanations contained hereinabove, it is respectfully submitted that this application is now in condition for immediate formal allowance and further reconsideration to that end is earnestly solicited.

Respectfully submitted,

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**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to the Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450 on December 23, 2003.

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Signature

December 23, 2003  
Date